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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,081	01/31/2002	Rafael Jose Castillo	317-46US	3028
	7590 03/30/2004		EXAMINER	
Koch Law Office 866 Main Street East Hamilton, ON L8M 1L9 CANADA			DAVIS, ROBERT B	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary	Application No.	Applicant(s)	
	10/060,081	CASTILLO, RAFAEL JOSE	
	Examiner	Art Unit	
	Robert B. Davis	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-19, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 1, 2, 8, 12, 13, 15 and 19-22 objected to because of the following informalities:

Claim 1 is objected to because "supplu-channels-A" on line 25 should be "supply-channels-A".

Claim 2 is objected to because the claim ends in three periods.

Claims 8, 12, 13, 15 and 19-22 are objected to because of the "notes" located on the line before each claim. Accordingly, a clean copy of the entire set of claims is required even if applicant chooses not to amend the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

3. Claims 1-4, 6, 7, 12, 14 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Rodriguez et al (6,343,919: entire disclosure).

Rodriguez et al teach an extrusion die apparatus for manufacturing blown film comprising: a die member (40) of a generally annular form, having a circumferential

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outer face (18) and a circumferential inner face (14), the die member has opposing groove faces (20, 22) in the respective disks (figure 5), each of the opposing groove faces has melt conveying channels (24, 30), the die member has a melt entry port (32) which is either one feed port for both sides or separated for opposing sides of the die member as shown by dotted line (34 in figure 5) into separate feed ports (32a, 32b), the melt conveying channels include spiral channels (30) which feed the die annulus (16), the melt spills over lands between grooves (column 4, lines 22-25), the spiral grooves progressively feed the melt to the inner edge and annulus (16, see figures 1-4), the melt channels also include N supply channels (24) and N recombining mixers (31) which mix melt from two adjacent supply channels (see figures 1-4 and column 3, lines 37-42). The specification and claims of this application have been rewritten, but the structure of the Patent clearly shows the structure of the claims in this rejection. There is additional subject matter that has not been described in the patent.

It is noted that this application does not have a common inventor or assignee at this time as Mr. Castillo was deleted from the patent.

4. Claims 1-4, 6, 7, 12, 14 and 22 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. The subject matter shown in figures 1-8 of the present application is clearly described and supported by U.S. Patent 6,343,919 B1 to Ricardo Pablo Rodriguez and Michael Peter Bucko. The current applicant (Mr. Castillo) was deleted along with claims 17-20 of the parent application. The only subject matter in claims 17-20 that can be attributed to Mr. Castillo with the evidence in the Patented application file is the use of insulation between the layered

disk elements. It is noted that Mr. Castillo filed a declaration after the notice of allowance stating that he should not have been deleted, but such was only placed in the patent application file and the Patent 6,343,919 B1 issued without Mr. Castillo as an inventor.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez et al taken together with Planeta et al (6,116,885: figures 2-8 and 12-13).

Rodriguez et al disclose all claimed features except for the groove-opposing surface being a concave frustrum of a right cone and the groove face being correspondingly convexly conical.

Planeta et al disclose an extrusion die for a tubular film in which the spiral feeding channels on a conical surface (figures 2 and 3) or as an alternative embodiment a flat disk surface (figures 12 and 13).

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the apparatus of Rodriguez et al by forming the groove face and the opposing surface in a conical orientation as disclosed by Planeta et al as the orientation of the groove face and the opposing surface in either a conical orientation or a flat disk were well known alternatives in the blown film extrusion art for feeding the melt to a die annulus. One of ordinary skill in the art would expect either orientation to function properly to distribute the melt from a single inlet to a die annulus.

8. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez et al taken together with Davidson et al (6,638,463 B2: figures 2-4 and column 7, lines 45-58).

Rodriguez et al disclose all claimed features except for the use of a sealing land having a step at the junction of two adjacent spiral grooves to prevent melt from spilling onto the land between the supply channels and the spiral grooves.

Davidson et al disclose a spiral feeding arrangement for a disk cone annular extrusion die wherein the area adjacent the beginning of a spiral groove (30a) adjacent a second groove (30d) is provided with a seal (32a) to prevent leakage of the melt past the seal, while allowing spillover areas along the groove as it approaches the annulus to properly fill the annulus.

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the obvious to modify the apparatus of Rodriguez et al by using a seal on the land area between adjacent spiral feed channels to prevent flow of the polymer melt in a direction counter to the desired extrusion direction. It is clear that backflow of the melt without a seal would result in improper feeding of the die annulus and corresponding product defects.

9. Claims 15-18, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez et al taken together with Halter (German reference DE 4218095 A1: figures 1-4 and the English abstract).

Rodriguez et al disclose all claimed elements except for the die feed inlets and the spiral channels being offset.

Halter discloses a die for forming a blown film comprising: a disk element (13) having spiral feed grooves (10) on opposing sides of the disk wherein the spiral channels are offset with respect to each other (abstract). The reference also discloses offset feed inlets (7) in figure 4 for the opposing spiral channels. The reference states that the design is simpler and improves melt homogeneity.

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the apparatus of Rodriguez et al by having offset spiral channels and offset feed inlets as disclosed by Halter for the purpose of improving melt homogeneity of the extruded product.

In regards to claim 17, Rodriguez et al discloses a single feed inlet connected to two resin sources and it would have been obvious to stagger the spiral channels as

suggested by Halter while using a single inlet for the multiple melt streams as the staggered spiral channels improve melt homogeneity and the common inlet for two melt streams reduces the amount of machining in manufacturing the disk element.

Allowable Subject Matter

10. Claim 20 is allowed over the prior art of record.

11. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: In regards to claims 13 and 20, none of the prior art discloses or suggests opposing groove surfaces on opposing sides of a die element wherein the spiral grooves are both clockwise when viewed from the same side of the die element. Rodriguez et al disclose that the spiral grooves are manufactured such that one side is clockwise and the other counter-clockwise. Halter discloses offset spiral grooves, but fails to disclose or suggest both sets of spiral grooves being clockwise when viewed from the same side of the die element (if the die element was transparent).

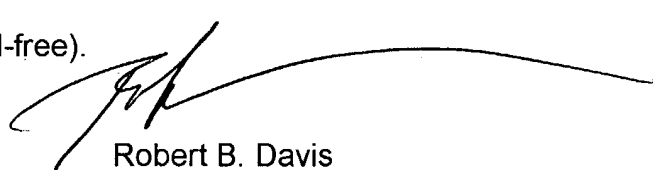
Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining references show the state of the art in blown film extrusion dies.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert B. Davis whose telephone number is 571-272-1129. The examiner can normally be reached on Monday-Friday 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert B. Davis
Primary Examiner
Art Unit 1722

3/19/04